

## CLAIMS

1. A polyisocyanate composition which is represented by the following structural formula (I) and satisfies all of the following requirements: i) the diisocyanate monomer concentration is not more than 3 mass%, ii) the polyol component concentration is 1-50 mass%, and iii) the glass transition temperature is -50°C to 0°C;



(in the formula, R is a residue excluding isocyanate group in the polyisocyanate composition derived from at least one compound selected from the group of aliphatic diisocyanates, at least one compound selected from the group of alicyclic diisocyanates and at least one compound selected from the group of polyols, the diisocyanate and the polyol are bonded through an allophanate bond in at least a part of bonding portions of the diisocyanate and the polyol, the ratio of aliphatic diisocyanate component/alicyclic diisocyanate component is 95/5 - 50/50 (by mass ratio), and n (a statistical average number of isocyanate group in one molecule of the polyisocyanate) is 4.5-20).

2. The polyisocyanate composition according to claim 1 which has a viscosity of 100,000-2,000,000 mPa·s/25°C.

3. The polyisocyanate composition according to

claim 1 or 2, wherein the average number of hydroxyl group per one molecule of polyol is 3-8.

4. The polyisocyanate composition according to any one of claims 1-3, wherein the glass transition temperature is  $-45^{\circ}\text{C}$  to  $-10^{\circ}\text{C}$ .

5. The polyisocyanate composition according to any one of claims 1-4 which contains an isocyanurate bond.

6. The polyisocyanate composition according to any one of claims 1-5, wherein the polyol has a number average molecular weight of 500 or less.

7. The block polyisocyanate composition comprising the polyisocyanate composition according to any one of claims 1-6 in which a part or the whole of the isocyanate group is blocked with a blocking agent.

8. A method for producing the polyisocyanate composition according to any one of claims 1-6 which comprises the steps of: reacting at least one compound selected from the group of aliphatic diisocyanates, at least one compound selected from the group of alicyclic diisocyanates and at least one compound selected from the group of polyols at a ratio of isocyanate group/hydroxyl group (equivalent ratio) =  $3/1 - 30/1$ ; optionally carrying out isocyanuration reaction after or simultaneously with the above reaction; and then removing unreacted diisocyanate monomers.

9. A coating composition which comprises the polyisocyanate composition or block polyisocyanate

composition according to any one of claims 1-7 and at least one polyol.

10.       The coating composition according to claim 9 which is used for clear coat.

11.       / A method for applying the coating composition according to claim 10 which comprises applying the coating composition to a base coat containing a pigment.

12.       The application method according to claim 11, wherein the base coat is a water-based paint.

13.       The application method according to claim 11 or 12 which further comprises simultaneously curing the base coat and the clear coat.